

REMARKS

Reconsideration of the application in view of the above amendments and the followings remarks is respectfully requested.

The Examiner states that the abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(1) and requires that the abstract of the disclosure be presented on a separate sheet.

Applicants note that in the preliminary amendment filed with this application, this correction was expressly made. On page 6 of the preliminary amendment, Applicants stated that a substitute abstract was enclosed and a substitute abstract was enclosed with the preliminary amendment. In the Official Action the Examiner states that she is responding to the communication filed on February 5, 1998, which includes the preliminary amendment, and therefore this new abstract should be of record. However, for the convenience of the Office, a photocopy of the abstract is enclosed herewith.

The Examiner rejects Claims 1-3 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner states that the statement "removing the second mask film such that it is left on the side walls of the mask film is formed on the side walls of the trenches" in Claim 1 and similar statements in Claims 2 and 3 are vague and indefinite by using improper grammar.

First of all, we believe that the Examiner has mischaracterized the statements in the claim, as it does not read as she states. There were some words missing from the Examiner's quote. However, Applicants have revised Claims 1-3 in order to clarify this text by reciting that the second mask film covers the walls in the bottom of the trench and that the removing step removes the second mask film from the bottom of the trench but not from the side walls thereof.

The Examiner rejects Claims 1-11 under 35 U.S.C. § 103(a), as being unpatentable over Tsuji '625. The Examiner states that with regards to Claims 1-3, Tsuji teaches the method of manufacturing a semiconductor device comprising forming an insulating film over a substrate, forming a first mask on the insulating film and forming a resist film on the first mask film which shows a mask during etching process to form an opening which is followed by the formation of trenches on the insulating film. The Examiner states that Tsuji teaches formation

of a second mask film and its use as an etching mask during the formation of connecting holes. The Examiner states that Tsuji teaches the formation of a wiring layer by burying an electroconductive material in the trenches. The Examiner states that Tsuji does not disclose the removal of the first and second mask films, but concludes that it would have been obvious to one of ordinary skill in the art to modify Tsuji by removing the first and second mask films during the semiconductor manufacturing process in anticipation of an expected result.

We cannot agree. First of all, we cannot understand the Examiner's statement that one would be motivated to remove the first and second mask films during a manufacturing process in anticipation of an unspecified expected result. As is well known to those skilled in the art, each process in the production of a semiconductor device not only increases the cost, but reduces the yield of the process, and thus is not done unless it is essential in the manufacturing process. Skilled artisans in this art area do not undertake the addition of steps to a manufacturing process unless the specific result is required, and the Examiner has not stated what this specific result might be.

Secondly, the Examiner has ignored the clear recitation in the present claims of the utilization of the second mask film to form side walls in the trenches which side walls prevent the widening of the trenches in the manufacturing process, to prevent the problems cited on pages 1 and 2 of the present application. Applicants have revised Claims 1-3 in order to clarify this feature which is neither shown nor suggested in the reference cited by the Examiner. It should be clearly noted that while it is the removal of the second mask film from the bottom of the trenches that is recited, this does not mean that some of the second mask film which resides over the first mask film might also be removed, but it is the remaining film on the side wall of the trenches that is the feature of the present invention. With regards to the sub-claims, these claims are dependent directly or indirectly on Claims 1, 2 or 3 and are therefore patentable for the same reasons.

Accordingly, applicants believe the application, as amended, is in condition for allowance, and such action is respectfully requested.

Respectfully submitted,



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